

Chemical and Biochemical Engineering - CBEN

Freshman Year Fall Semester			Hours
CHGN121	Principles of Chemistry		4
CSM101	Freshman Success Seminar		0.5
EPIC151	Design I		3
CBEN110	Fundamentals of Biology I		4
MATH111	Calculus for Scientists and Engineers I		4
PAGNxxx	Physical Education I		0.5
			16

Freshman Year Spring Semester			Hours
LAIS100	Nature and Human Values		4
CHGN122	Principles of Chemistry		4
MATH112	Calculus for Scientists and Engineers II		4
PAGNxxx	Physical Education II		0.5
PHGN100	Physics I		4.5
			17

Sophomore Year Fall Semester			Hours
CBEN210	Introduction to Thermodynamics		3
CHGN221	Organic Chemistry I		3
CHGN223	Organic Chemistry I Lab (or in Spring)		1
MATH213	Calculus for Scientists and Engineers III		4
PAGNxxx	Physical Education III		0.5
PHGN200	Physics II		4.5
			16

Sophomore Year Spring Semester			Hours
CBEN201	Mass and Energy Balances		3
CBEN202	Chemical Process Principles Lab		1
CHGN222	Organic Chemistry II		3
EBGN201	Principles of Economics		3
EPIC265	Biochemical Processes Design II		3
MATH225	Differential Equations		3
PAGNxxx	Physical Education IV		0.5
			16.5

Junior Year Fall Semester			Hours
CBEN307	Fluid Mechanics		3
CBEN357	Chemical Engineering Thermodynamics		3
CHGN428	Intro. to Biochemistry		3
LAIS200	Human Systems		3
	Free Elective 1		3
			15

Junior Year Spring Semester			Hours
CBEN308	Chemical Engineering Heat Transfer		3
CBEN358	Chemical Engineering Thermodynamics Lab		1
CBEN375	Chemical Engineering Mass Transfer		3
CHGN351	Physical Chemistry I		4
CHGN462	Microbiology		3
	LAIS/EBGN Elective 1		3
			17

Summer Field Session			Hours
CBEN312/313	Unit Operations Lab		6

Senior Year Fall Semester			Hours
CBEN418	Reaction Engineering		3
CBEN430	Transport Phenomena		3
CBEN460	Bioprocess Engineering		3
CBEN461	Bioprocess Engineering Laboratory		1
	LAIS/EBGN Elective 2		3
	Free Elective 2		3
			16

Senior Year Spring Semester			Hours
CBEN402	Chemical Engineering Design		3
CBEN403	Process Dynamics and Control		3
EBGN321	Engineering Economics		3
	LAIS/EBGN Elective 3 (400 level)		3
	Free Elective 3		3
			15